

Amendment Under 37 C.F.R. §1.111
Application No. 10/542,065
Attorney Docket No. 052780

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

1. Cancelled.

2. Cancelled.

3. Cancelled.

4. Cancelled.

5. Cancelled.

6. Cancelled.

7. (Currently amended): A manufacturing method for [[the]] a broad band cholesteric liquid crystal film ~~according to claim 1~~ comprising steps of: polymerizing a liquid crystal mixture that is free of an ultraviolet absorbent, containing a polymerizable mesogen compound (a), a polymerizable chiral agent (b) and a photopolymerization initiator (c) between two substrates with ultraviolet light, wherein

the broad band cholesteric liquid crystal film has a reflection bandwidth of 200 nm or more,

a pitch length in the cholesteric liquid crystal film changes so as to narrow continuously from a side irradiated with ultraviolet light, and

the pitch length is changed such that the difference in pitch length between the side of ultraviolet light irradiation and the opposite side is made at least 100 nm.

Amendment Under 37 C.F.R. §1.111

Application No. 10/542,065

Attorney Docket No. 052780

8. (Currently amended): A circularly polarizing plate comprising [[the]] a broad band cholesteric liquid crystal film ~~according to claim 1 wherein, the broad band cholesteric liquid crystal film comprises a cholesteric liquid crystal film obtained by polymerizing a liquid crystal mixture that is free of an ultraviolet absorbent, containing a polymerizable mesogen compound (a), a polymerizable chiral agent (b) and a photopolymerization initiator (c) between two substrates with ultraviolet light, and~~

~~the broad band cholesteric liquid crystal film has a reflection bandwidth of 200 nm or more,~~

~~a pitch length in the cholesteric liquid crystal film changes so as to narrow continuously from a side irradiated with ultraviolet light, and~~

~~the pitch length is changed such that the difference in pitch length between the side of ultraviolet light irradiation and the opposite side is made at least 100 nm.~~

9. (Currently Amended): A ~~linearly linear~~ polarizer comprising the circularly polarizing plate according to claim 8 and a $\lambda/4$ plate ~~laminating~~ laminated on the circularly polarizing plate.

10. (Currently Amended): The ~~linearly linear~~ polarizer according to claim 9, wherein the circularly polarizing plate, which is the broad band cholesteric liquid crystal film, ~~laminates~~ is laminated on the $\lambda/4$ plate so that a pitch length in the film is narrowed toward the $\lambda/4$ plate continuously.

11. (Currently Amended): A ~~linearly linear~~ polarizer comprising an absorption polarizer ~~adhering~~ adhered to the linearly polarizer according to claim 9 so that a transmission axis

Amendment Under 37 C.F.R. §1.111
Application No. 10/542,065
Attorney Docket No. 052780

direction of the absorption polarizer and a transmission axis of the linearly polarizer are arranged in parallel with each other.

12. (Currently Amended): The ~~linearly~~ linear polarizer according to claim 9, wherein the $\lambda/4$ plate satisfies that a Nz coefficient defined by formula $(nx - nz)/(nx - ny)$ is -0.5 to -2.5 when in-plane major refractive indexes are nx and ny respectively and the major refractive index in the direction of thickness is nz.

13. (Previously presented): A luminaire comprising the circularly polarizing plate according to claim 8 on a front surface side of a surface light source having a reflective layer on the back surface side thereof.

14. (Original): A liquid crystal display comprising a liquid crystal cell in a light emitting side of the luminaire according to claim 13.

15. (Currently Amended): A luminaire comprising the ~~linearly~~ linear polarizer according to claim 9 on a front surface side of a surface light source having a reflective layer on the back surface side thereof.

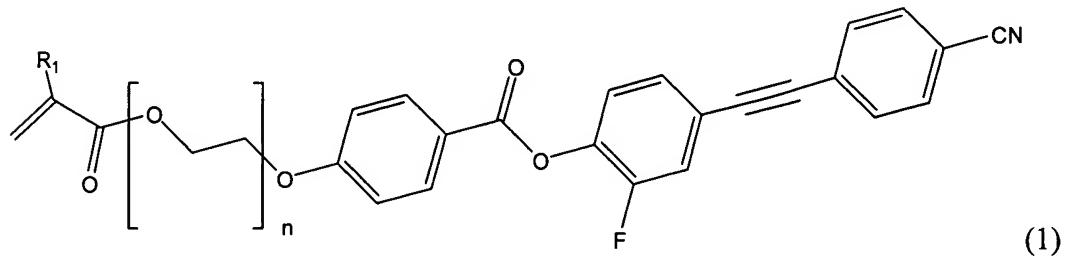
16. (Previously presented): A liquid crystal display comprising a liquid crystal cell in a light emitting side of the luminaire according to claim 15.

17. (NEW): The manufacturing method for a broad band cholesteric liquid crystal film according to claim 7, wherein the polymerizable mesogen compound (a) has one polymerizable functional group and the polymerizable chiral agent (b) has two or more polymerizable functional groups.

Amendment Under 37 C.F.R. §1.111
Application No. 10/542,065
Attorney Docket No. 052780

18 (NEW): The manufacturing method for a broad band cholesteric liquid crystal film according to claim 7, wherein the molar absorption coefficient of the polymerizable mesogen compound (a) is 50 to 500 $\text{dm}^3 \cdot \text{mol}^{-1} \cdot \text{cm}^{-1}$ at 365 nm.

19. (NEW): The manufacturing method for a broad band cholesteric liquid crystal film according to claim 7, wherein the polymerizable mesogen compound (a) is a compound represented by the following general formula (1):



wherein R_1 represents a hydrogen atom or a methyl group, and n is an integer of 1 to 5.